

Amendments to the Claims

- 1-121. (Cancelled).
122. (Previously Presented) Purified cage molecules consisting of carbon atoms.
123. (Previously Presented) Purified cage molecules consisting of carbon atoms in solid form.
124. (Previously Presented) Crystalline cage molecules consisting of carbon atoms.
125. (Previously Presented) Purified cage molecules consisting of carbon atoms in crystalline form.
126. (Previously Presented) A macroscopic amount of purified cage molecules consisting of carbon atoms.
127. (Previously Presented) A product comprising a cage moiety consisting of carbon atoms.
128. (Currently amended) A product comprising purified cage molecules consisting of carbon atoms soluble in non-polar organic solvents.
129. (Currently amended) A free-flowing particulate comprising purified cage molecules consisting of carbon atoms soluble in non-polar organic solvents.
130. (Previously Presented) A free-flowing particulate comprising cage molecules consisting of carbon atoms in microcrystalline form.
131. (Previously Presented) A solid comprising a macroscopic amount of cage molecules consisting of carbon atoms in crystalline form.
132. (Currently amended) A solid comprising a macroscopic amount of purified cage molecules consisting of carbon atoms soluble in non-polar organic solvents.
133. (Currently amended) A solid carbon product prepared by the process comprising: (a) vaporizing a carbon source in the presence of an inert quenching gas under conditions effective to provide a sooty carbon product comprising cage molecules; (b) depositing the sooty carbon product on a collecting substrate; (c) removing the sooty carbon product from the collecting

substrate; (d) contacting the sooty carbon product with a non-polar organic solvent effective to dissolve said cage molecules, said solvent being present in an amount effective to dissolve ~~the~~ said cage molecules in said sooty carbon product; and (e) recovering from said resulting product formed when the sooty carbon product was contacted with said solvent a solid carbon product comprising said cage molecules in a macroscopic amount.

134. (Previously Presented) The solid carbon product of claim 133 in which the carbon in step (a) is vaporized in an evacuated reactor.

135. (Previously Presented) The solid carbon product of claim 134 in which the carbon source of step (a) is vaporized in an evacuated bell jar.

136. (Previously Presented) The solid carbon product of claim 133 in which the carbon source subject to vaporization in step (a) is graphite.

137. (Previously Presented) The solid carbon product of claim 133 in which the carbon source subject to vaporization in step (a) is graphite rods.

138. (Previously Presented) The solid carbon product of claim 133 wherein the carbon source is vaporized in step (a) through heating the carbon source by means of an electrical current of sufficient intensity to produce the sooty carbon product.

139. (Previously Presented) The solid carbon product of claim 138 wherein the electrical current is about 100 amps.

140. (Previously Presented) The solid carbon product of claim 133 wherein the inert quenching gas of step (a) is a noble gas.

141. (Previously Presented) The solid carbon product of claim 133 wherein the carbon source is vaporized in step (a) at a pressure ranging from 50 torr to 400 torr.

142. (Previously Presented) The solid carbon product of claim 141 wherein the carbon is vaporized in step (a) at approximately 100 torr.

143. (Previously Presented) The solid carbon product of claim 133 wherein the carbon is

vaporized in step (a) at a pressure ranging from about 2 to 3 atmospheres.

144. (Previously Presented) The solid carbon product of claim 133 wherein the collecting substrate in step (b) is a glass surface.

145. (Previously Presented) The solid carbon product of claim 140 wherein the inert gas is helium or argon.

146. (Previously Presented) The solid carbon product of claim 133 wherein the non-polar organic solvent of step (d) is carbon disulfide, benzene, carbon tetrachloride or toluene.

147. (Previously Presented) The solid carbon product of claim 146 wherein the solvent is benzene.

148. (Previously Presented) The solid carbon product of claim 146 wherein the solvent is carbon tetrachloride.

149. (Previously Presented) The solid carbon product of claim 133 wherein recovery step (e) comprises evaporating the solvent.

150. (Currently amended) A solid carbon product prepared by the process comprising: (a) evaporating a carbon source in the presence of an inert quenching gas under conditions effective to produce a sooty carbon product containing cage molecules, said cage molecules being present in said sooty carbon product in sufficient concentration to allow a macroscopic amount of said cage molecules to be separated from said sooty product; (b) collecting the sooty carbon product produced therefrom; (c) subliming the carbon product comprising said cage molecules from the sooty carbon product; and (d) condensing the sublimed carbon product comprising said cage molecules.

151. (Currently amended) The solid carbon product of claim 150, wherein ~~the~~ said collecting substrate in step (b) is done on a glass surface.

152. (Canceled)

153. (Currently amended) The solid carbon product of claim ~~152~~ 150 wherein step (c)

comprises heating the carbon product comprising said cage molecules in a vacuum or inert atmosphere at effective sublimation temperatures to extract the carbon product comprising said cage molecules from said sooty carbon product.

154. (Previously Presented) The solid carbon product of claim 150 in which the carbon source in step (a) is vaporized in an evacuated reactor.

155. (Previously Presented) The solid carbon product of claim 154 in which the carbon in step (a) is vaporized in an evacuated bell jar.

156. (Previously Presented) The solid carbon product of claim 150 in which the carbon subject to vaporization in step (a) is graphite.

157. (Previously Presented) The solid carbon product of claim 150 in which the carbon subject to vaporization in step (a) is graphite rods.

158. (Previously Presented) The solid carbon product of claim 150, wherein the carbon source in step (a) is vaporized by passing an electric current of sufficient intensity to produce a sooty carbon product.

159. (Previously Presented) The solid carbon product of claim 158, wherein the electrical current is about 100 amps.

160. (Previously Presented) The solid carbon product of claim 150, wherein the inert quenching gas of step (a) is a noble gas.

161. (Previously Presented) The solid carbon product of claim 150, wherein the carbon source in step (a) is vaporized at a pressure ranging from 50 torr to 400 torr.

162. (Previously Presented) The solid carbon product of claim 161, wherein the carbon source is vaporized in step (a) at approximately 100 torr.

163. (Previously Presented) The solid carbon product of claim 160, wherein the noble gas is helium or argon.

164. (New) The product of claim 127, wherein said cage moiety is soluble in non-polar

organic solvents.

165. (New) The product of claim 127, wherein said cage moiety is a polyhedral carbon cage.

166. (New) The product of claim 127, wherein said cage moiety is C₆₀.